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DEVELOPMENTS IN ILLINOIS AND INDIANA IN 1951¹

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ABSTRACT

In all, 3,702 wells were drilled for oil and gas in Illinois and Indiana in 1951 as compared with 4,424 in 1950, a decrease of 16.5 per cent. Total oil production decreased 2.6 per cent from 72,725,000 barrels in 1950 to 70,823,000 barrels in 1951. Wildcat drilling increased from 1,334 completions in 1950 to 1,483 completions in 1951. Sixty-nine new pools, 76 extensions, and 52 new producing zones were discovered in the two states in 1951.

As in previous years, most of the discoveries in 1951 were in Mississippian formations. Six new pools were discovered in Pennsylvanian sandstones, 7 in Devonian or Silurian limestones, and 1 in Ordovician limestone.

INTRODUCTION

In Illinois and Indiana, 3,702 wells for oil and gas were drilled in 1951 as compared with 4,424 in 1950, a decrease of 16.5 per cent. Total oil production decreased 2.6 per cent, from 72,725,000 barrels in 1950 to 70,823,000 barrels in 1951. Wildcat drilling increased from 1,334 completions in 1950 to 1,483 completions in 1951, an increase of 11 per cent. Sixty-nine new pools, 76 extensions, and 52 new producing zones were discovered in the two states in 1951.

In the Illinois basin area (southern Illinois and southwestern Indiana) 56 out of 69 discovery wells of new pools produced from Mississippian formations (23 Chester series and 33 Lower Mississippian). Of the remaining 13 discovery wells of new pools, 6 produced from Pennsylvanian sandstone, 6 from Devonian or Silurian limestone, and 1 from Ordovician limestone.

ILLINOIS

By ALFRED H. BELL

In Illinois 2,383 wells were drilled for oil and gas in 1951 as compared with 2,894 in 1950, a decrease of 17½ per cent. (These figures are exclusive of water- or gas-input wells, salt-water disposal wells, and old wells worked over.) Of the 2,383 wells drilled 839 are classified as wildcat wells as compared with 830 in 1950, an increase of 1 per cent. Of the wildcat wells drilled in 1951, 330 were located more than 2 miles from production ("wildcats far") of which 16, or 4.8 per cent, were successful. In 1950, 4.3 per cent were successful. Drilling in 1951 resulted in 916 oil wells, 8 gas wells, and 1,459 dry holes.

Of the 839 wildcat wells drilled, 41 discovered new pools and 53 discovered extensions to pools (Tables I and II). In addition, 24 wells, most of which can not

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TABLE I. DISCOVERY WELLS OF NEW FIELDS

Pool	County	Company and Farm	Location	Total Depth (feet)	Producing Formation	Depth to Top (feet)	Initial Production (Barrels)	Date of Completion	No. Wells Producing in Pool, Dec. 31, 1951
1. Assumption South	Christian	Texas, Kemmerer Orphanage 1	14-12-N-1E	2,740	Devonian-Silurian	2,632	26; 1	12-31-51	1
2. Beaucoup	Washington	Collins Bros. & Obering, Minert 1	10-2S-2W	3,080	Devonian-Silurian	3,047	50	8-7-51	1
3. Beaucoup South	Washington	G. Hopkins, T. Kruski 1	33-2S-2W	1,445	Bethel	1,430	103; 4	10-30-51	6
4. Belmont	Washington	G. Ellison, H. Epler 1	36-1S-14W	2,847	McClosky	2,836	210	5-22-51	3
5. Blairville West	Edwards	G. C. Schoonmaker, R. Thompson 1	18-4S-7E	3,422	McClosky	3,410	400	5-1-51	9
6. Bone Gap East	Edwards	B. Kidd, A. H. Cowling 1	4-1S-14W	3,115	Lower Ohara	2,980	70	2-13-51	1
7. Broughton	Hamilton	Carter, J. Van Winkle 1	27-6S-7E	3,330	McClosky	3,277	92; 96	8-28-51	1
8. Broughton South	Hamilton	Skiles, M. Pemberton 1	20-7S-7E	3,227	McClosky	3,213	28; 30	10-2-51	1
9. Carrell North	Hamilton	R. Halbert, Auten Hrs. 1	32-6S-5E	3,250	Aux Vases	3,236	253	9-4-51	6
10. Carlyle South	Clinton	R. Schoendienst, D. R. Branch 1	11-1N-3W	1,079	Cypress	1,076	91 12	12-11-51	1
11. Christopher	Franklin	LaGrange Pet., B. Harrison-Old Ben Coal 1	24-6S-1E	2,822; PB 2,685	Lower Ohara	2,675	23; 10	2-27-51	0
12. Cottonwood North	Gallatin	Griffith & Berkman, Hale 1	21-7S-9E	2,624	Cypress	2,607	39	9-25-51	7
13. Exchange North	Marion	Atlas Drig., E. Sawyer 1	11-1N-3E	2,831; PB 2,735	McClosky	2,715	152; 50	7-24-51	1
14. Frogtown North	Clinton	Gulf, F. Warnecke 1	6-2N-3W	2,349; PB 1,244	St. Louis	1,195	165	4-17-51	22
15. Gards Point	Wabash	Gilliam Drig., E. Miller 1	25-1N-14W	2,844	Lower Ohara	2,838	312	9-25-51	1
16. Goldengate East	Wayne	C. E. Brehm, P. J. Seifert 1	2-3S-9E	3,420; PB 3,310	Lower Ohara	3,291	29; 35	11-13-51	1
17. Ford South	Clay	Webster & Shirk, Roberts 1	26-3N-6E	2,700	McClosky	2,781	350	9-11-51	4
18. Irvington East	Jefferson	Ervin & Bassett, Hartley 2	10-1S-1E	1,084	Pennsylvanian	1,030	24	10-23-51	1
19. Keenville East	Wayne	Bolin & Appleby, Clevenger 1	36-1S-5E	3,172	McClosky	3,127	67	8-7-51	2
20. Lexington North	Wabash	P. Rossi, E. Leitch 1	23-1S-14W	3,004	Lower Ohara	2,931	46	6-10-51	1
21. Livingston East	Madison	J. S. Leilwald, T. Voyles 1	26-6N-6W	555	Pennsylvanian	543	4,500,000 cu. ft.	11-27-51	1
22. Locust Grove	Wayne	J. M. Zanetis, W. F. Daubs 1	31-1N-9E	3,360	Lower Ohara	3,234	218 ^B	2-20-51	6
23. Lynchburg	Jefferson	Peak Drig., Brown 1	8-3S-4E	3,065	McClosky	3,278	175	10-23-51	1
24. Mason North	Edinburg	Texas, R. Simmickson 1	10-6N-5E	2,521	Rosiclare	2,963	53; 8	9-11-51	0
25. Maunie East	White	National Assoc. Pct., Truscott Hrs. "B" 1	6-6S-11E	2,878	Aux Vases	2,868	42, 20	12-31-51	1
26. Noble West	Clay	J. H. Gilliam, C. Jones 1	3-3N-8E	3,143	Rosiclare	3,036	42	10-9-51	1
27. Okaville	Washington	E. A. Obering, Baldwin 1	13-5S-4W	3,339	Silurian	2,823	50	5-22-51	3
28. Omaha South	Gallatin	Inland Producers, Allen 1	8-8S-8E	3,047; PB 2,668	Rosiclare	2,860	34; 30	10-9-51	1
29. Oskaloosa East	Clay	National Assoc. Petr., Spiker-Setton "A" 1	7-3N-6E	2,897	McClosky	2,894	207	7-31-51	2
30. Oskaloosa South	Clay	E. A. Obering, Hale 1	9-3N-5E	2,883	McClosky	2,770	0	12-18-51	1
31. Pana	Christian	Collins Bros., R. T. Jones 1	3-11N-1E	2,847; PB 1,483	Bethel	1,472	20; 20	5-15-51	2
32. Philliptown South	White	Aubrey-Tennant, J. L. Brown 1	11-5S-10E	2,694	Aux Vases	2,981	30; 5	10-30-51	1
33. Pinkstaff	Lawrence	Cherry & Beebe, W. E. Conrad 1	9-4N-11W	1,797	McClosky	1,734	15; 65	5-22-51	0
34. Raymond East	Montgomery	L. Marsch, M. P. Rogg-npohl 1	22-10N-4W	612	Pennsylvanian	602	50	12-11-51	1
35. Ritter North	Richard	Sanders & Fye, Phillips 1	18-3N-11E	3,288	McClosky	3,200	52; 10	11-13-51	1
36. Samsville West	Edwards	Peak Drig., E. King 1	17-1N-10E	3,312	Lower Ohara	3,266	200	12-4-51	2
37. Schnell South	Clay	Cavert Drig., E. Gallagher 1	13-2N-8E	3,071	Rosiclare	3,003	85	9-11-51	2
38. Sumpter East	White	George & Wrather, R. Winter 1	32-4S-10E	3,265	Lower Ohara	3,118	300	12-11-51	1
39. Walpole South	Hamilton	Dee Miller H. E. Howard 1	8-7S-6E	3,133	Aux Vases	3,125	350	6-26-51	2
40. Xenia East	Clay	W. W. Dayton, G. G. Campbell 1	11-2N-5E	2,535	Cypress	2,505	45; 24	7-17-51	2
41. Zenith North	Wayne	George & Wrather, D. McGrew 1	21-2N-6E	3,204	Rosiclare	3,083	25; 2	12-18-51	2

A Oil and water.

B Producing from 2 pays.

TABLE II. DISCOVERY WELLS OF EXTENSIONS TO POOLS

Pool	County	Company and Farm	Location	Total Depth (feet)	Producing Formation	Depth to Top (Feet)	Initial Production (Barrels) ^A	Date of Completion
1. Bend	White	B. M. Heath & Inland Prod., J. L. Brown	16-S-14-W	2,276	Tar Springs	2,256	250	8-7-51
2. Bone Gap East	Edwards	Gallagher, L. G. Smith	18-S-14-W	3,193; PB 2,315	Watersburg	2,310	50	8-21-51
3. Bone Gap West	Edwards	G. Wickham, Morgan	9-S-14-W	3,141	McClosky	2,310	121	5-20-51
4. Calhoun Central	Richland	George & Wraith, M. Beach	9-S-14-W	3,501	Rosiclare	3,247	54	5-20-51
5. Calhoun Consol.	Richland	J. B. Murvin, E. Arterberry	10-S-14-W	3,245	McClosky	3,196	81, 50	6-12-51
6. Carmi North	White	F. B. Moran, J. Zimmerman	10-S-9-E	2,906	Cypress	2,948	201	11-20-51
7. Clay City Consol.	Richland	Calvert Drilling, J. B. Picot	28-S-9-E	2,906	McClosky	2,883	871	12-18-51
8. Clay City Consol.	Richland	Mark Twain, L. Kasper	23-S-9-E	3,025	Rosiclare	3,007	85	3-13-51
9. Clay City Consol.	Richland	Joe Baker & Co., N. D. Tesser	1-S-9-E	3,029	Rosiclare	2,976	52	3-13-51
10. Clay City Consol.	Wayne	W. H. Beas, G. Bradham	1-S-9-E	3,474	Lower Ohara	3,116	116	6-26-51
11. Clay City Consol.	Wayne	Manumott Prod., A. Davis	20-S-7-E	3,268	Lower Ohara	3,177	621	6-10-51
12. Clay City Consol.	Wayne	Nation, C. Mark "A"	20-S-8-E	3,107	Aux Vases	3,082	30	1-30-51
13. Clay City Consol.	Wayne	Aurora, Bunting "A"	35-S-7-E	3,276	Lower Ohara	3,197	234 ^B	1-10-51
14. Clay City Consol.	Clay	W. W. Toler, Manker	17-S-8-E	2,924	McClosky	3,270	40	5-22-51
15. Divide East	Jefferson	Perrine & Ferrine, L. C. Ellis	30-S-4-E	2,677	Aux Vases	2,911	271	10-22-51
16. Ebele	Effingham	Robinson-Puckett, Becker	23-S-9-E	2,686	Rosiclare	2,680	28	5-22-51
17. Ellery West	Wayne	McGregor, R. Fisher	34-S-9-E	3,400	McClosky	3,364	551	5-8-51
18. Epworth Consol.	White	Skiles, E. A. Strophel	20-S-10-E	3,002	Aux Vases	2,903	55	9-4-51
19. Flannigan	Hamilton	Stewart Oil, J. Tate	28-S-5-E	3,312	Aux Vases	3,204	751	12-11-51
20. Frogtown North	Clinton	E. J. Goldschmidt, Jaske Comm.	1-S-4-W	2,280	Silurian	2,264	401, 50	4-17-51
21. Goldengate West	Wayne	N. V. Duncan, Locke	17-S-9-E	3,459; PB 3,330	Aux Vases	3,244	306	8-21-51
22. Goldengate West	Wayne	Tuley & Carter, Evans	8-S-9-E	3,252	Lower Ohara	3,322	121	8-7-51
23. Goldengate West	Wayne	Goodman Oil, R. O. Baker	20-S-9-E	3,432; PB 3,320	Aux Vases	3,235	81	12-4-51
24. Gossett	White	H. Atha, M. Delap	8-S-8-E	2,644	Cypress	2,625	35	6-12-51
25. Hidalgo North	Cumberland	Kull Oil, Clark	25-S-8-E	2,704	Rosiclare	2,660	6	10-2-51
26. Hord South	Clay	H. Graham, W. McGee	27-S-9-E	2,781	McClosky	2,775	460	5-10-51
27. Ingram	Clay	Sun Drilling, Hinterscher A-1	9-S-8-E	3,036	Rosiclare	3,010	275	1-10-51
28. Inman East Consol.	Gallatin	Coy Oil, H. C. Ford	28-S-10-E	2,112	Watersburg	2,007	20	7-3-51
29. Inman West Consol.	Gallatin	Farrell & Ripley, A. Maloney	30-S-10-E	2,837	McClosky	2,832	51	6-5-51
30. Inman West Consol.	Gallatin	H. E. Howard, M. Mills	26-S-9-E	2,788	Cypress	2,472	135, 45 ^B	5-15-51
31. Iola Consol.	Effingham	D. H. Bolin, Hetzel	33-S-9-E	2,498	Aux Vases	2,766	202	10-9-51
32. Irvington	Washington	Hockman, Riechman	25-S-1-W	1,540	Barlow	1,524	41 ^B	8-28-51
33. Keensburg South	Wabash	White & Vickery, G. Garst "B"	34-S-13-W	2,408	Cypress	1,531	281	7-3-51
34. Keenville	Wayne	N. V. & W. Duncan, Blackburn	20-S-5-E	2,959	Aux Vases	2,801	231	7-17-51
35. Lancaster South	Wabash	Burr Lambert & Rock Island, A. L. Seibert	27-S-13-W	2,712	Lower Ohara	2,670	401, 150	6-10-51
36. Maple Grove East	Edwards	Miracle & Steber, J. M. Luther	13-S-10-E	2,466	Watersburg	2,448	150, 100	8-21-51
37. Mason	Effingham	H. Luttrell, C. J. Moritz	23-S-5-E	2,304	Bethel	2,296	90	8-21-51
38. Maunie South	White	Farrell & Ripley, Westgard Hrs.	36-S-9-E	2,099; PB 1,924	Degonia	1,904	44	8-29-51
39. Mitchell	Wayne	Pappas & Baird, Allison G. H.	30-S-9-E	3,388	McClosky	3,322	751	8-21-51
40. Mt. Carmel	Wabash	Indiana Farm Bureau, G. H. Zimmerman	10-S-12-W	1,993	Cypress	1,970	40	8-21-51
41. New Harmony South	White	W. C. McBride, Truscott	24-S-12-W	3,153; PB 2,676	Cypress	2,668	141	12-11-51
42. New Haven Consol.	White	Tuley & Carter, W. L. Wasem	28-S-10-E	2,457	Tar Springs	2,137	153	8-7-51
43. Olney Consol.	Richland	D. Raines, G. Stangle	25-S-10-E	3,151	McClosky	3,151	153	6-12-51
44. Parkersburg Consol.	Richland	Slagle & Co., Ivey	15-S-14-W	3,079	McClosky	3,072	47	9-11-51
45. Parkersburg Consol.	Richland	Calvert Drilling, W. O. Freeman	21-S-14-W	3,101	McClosky	3,066	250	7-24-51
46. Parkersburg Consol.	Richland	Calvert Drilling, J. McVaugh	10-S-14-W	3,333	Rosiclare	3,079	102	7-17-51
47. Phillipsburg Consol.	White	Asland & Herndon, H. Hanks	14-S-10-E	2,885	Bethel	2,836	25	9-4-51
48. Reservoir	Jefferson	National Assoc. Pet., Pfeiffer "A"	29-S-3-E	1,800	McClosky	2,574	130	11-27-51
49. Rock	Lawrence	Sanders-Fye, Starkman	7-S-12-W	2,870	Watersburg	1,603	41	7-24-51
50. Ste. Marie West	Jasper	Beil Bros., C. Rudd	2-S-10-E	3,081	McClosky	2,847	228	11-27-51
51. Stanford	Wayne	Asland & Becker, O. Lee	26-S-9-E	3,260; PB 3,167	McClosky	3,033	60	8-21-51
52. Storms	White	Asland & N. V. Duncan, W. B. Hall	30-S-9-E	2,980; PB 2,540	Rosiclare	3,142	35	9-4-51
53. Whittington	Franklin	J. H. Gillham, Fitzgerald Hrs.	20-S-3-E	2,980; PB 2,540	Cypress	2,520	38	6-12-51

A Oil and water.

B Producing from 2 pays.

TABLE III. DISCOVERY WELLS OF ADDITIONAL PRODUCING ZONES IN POOLS

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Depth to Top (Feet)	Initial Production (Barrels) ^A	Date of Completion
1. Bellmont	Wabash	G. Ellison, Fisher Hrs. 1	36-1S-14W	2,925; PB 2,661	Bethel	2,650	24; 7	7-3-51
2. Bone Gap	Edwards	Gallagher, L. G. Smith 1	18-1S-14W	3,193; PB 2,315	Waltersburg	2,310	50	8-21-51
3. Cottonwood North	Gallatin	S. B. Griffith, Hale 6	21-7S-0E	3,050	McClosky	2,084	33	12-31-51
4. Ellery West	Wayne	Skiles, E. O'Daniel 1	26-2S-0E	3,238	Aux Vases	3,230	50 ^B	4-24-51
5. Ellery West	Wayne	Ill. Mid-Continent, Jones-Kendall 1	23-2S-0E	3,395; PB 3,118	Bethel	3,109	108; 8	1-30-51
6. Epworth	White	George & Wrather, Hanna 1	32-2S-10E	3,067; PB 1,866	Pennsylvanian	1,847	40; 4	6-26-51
7. Frogtown North	Clinton	E. J. Goldschmidt, Jaske Comm. 1	17-2N-4W	2,280	Slurian	2,264	440; 50	4-17-51
8. Gossett	White	H. Abba, Rabe Shaw 1	17-2S-8E	2,673	Aux Vases	2,055	20	6-12-51
9. Gossett	White	H. Abba, M. Delap 1	8-1S-8E	2,644	Cypress	2,625	35	6-12-51
10. Half Moon	Wayne	Collins Bros., Mabree "B" 2	28-1S-0E	3,310; PB 3,212	Aux Vases	3,100	9; 24	11-20-51
11. Herald	Washington	A. J. Slagter, S. Bayley 1	2-1S-0E	1,700	Pennsylvanian	694	1,600; 00 cu. ft.	10-30-51
12. Irvington	Washington	H. Korman, Reichen 1	25-1S-1W	1,540	Barlow	1,525	41 ^B	8-28-51
13. Kensington South	Wabash	White, Vickery, Garst 1	27-1S-13W	2,416	Cypress	2,404	360	4-24-51
14. Langewisch-Kuester	Marion	W. C. Wellman, Langewisch 1	4-1N-1E	824	Pennsylvanian	798	2; 6	11-6-51
15. Locust Grove	Wayne	J. W. Rudy, Denny-Bunting 1	32-2N-0E	3,229	Aux Vases	3,218	54	4-3-51
16. Long Branch	Saline	Cullum & Lawhead, J. J. Ellis 1	20-7S-0E	2,766	Cypress	2,749	80	9-4-51
17. Loudon	Payette	Carter, J. Dress 1-G	22-8N-3E	1,107	Tar Springs	1,103	200,000 cu. ft.	10-30-51
18. Mason	Effingham	H. Luttrell, C. J. Moritz 2	23-6N-3E	2,304	Bethel	2,296	60	8-21-51
19. Mason North	Effingham	Texas, E. Tonn 4	9-6N-3E	2,551; PB 2,361	Aux Vases	2,357	50; 75 ^B	12-11-51
20. Mason North	Effingham	Texas, R. Simmickson 2	10-6N-3E	2,504; PB 2,269	Bethel	2,247	100; 30	10-2-51
21. New Harmony South	White	W. C. McBride, Truscott 1	28-5S-14W	3,123; PB 2,676	Cypress	2,668	14; 90	12-11-51
22. Orchardville	Wayne	Collins Bros., Rutherford Hrs. 1	29-1N-3E	2,808	Aux Vases	2,704	20; 20	3-27-51
23. Racoon Lake	Marion	Texas, C. Langenfeld 10	3-1N-1E	3,385	Slurian	3,223	100; 101	10-23-51
24. Sumpter	White	Kingwood, R. J. Winter 1	25-4S-9E	3,325; PB 2,669	Hardinsburg	2,655	7; 20	9-18-51

^A Oil and water.^B Producing from 2 pays.

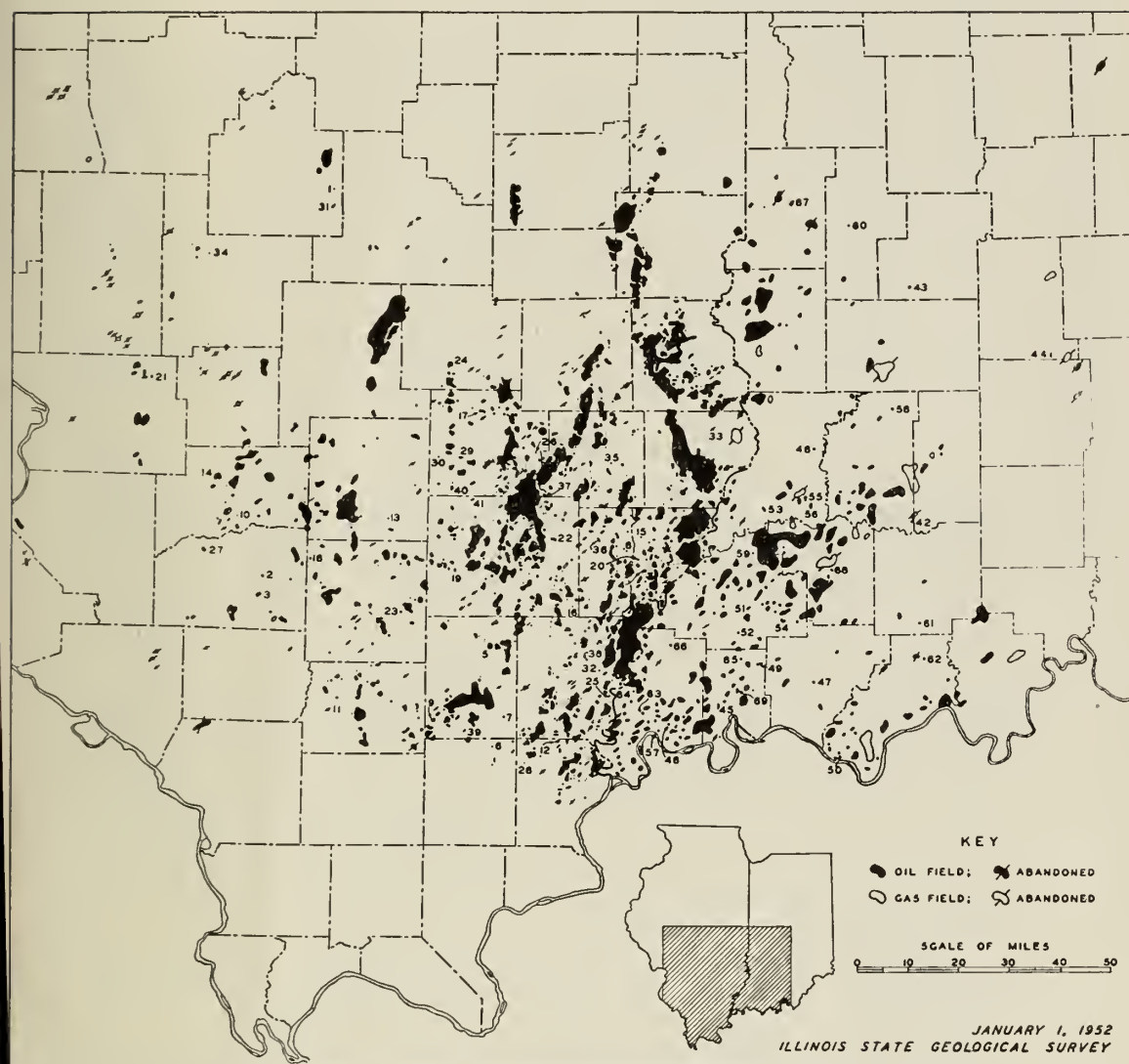


FIG. 1.—Oil and gas pools in Illinois and Indiana. Numbers indicate new pools discovered in 1951. See Tables I and VII.

be designated properly as exploratory wells, discovered additional producing zones in known producing areas (Table III).

Most of the drilling in Illinois in 1951 was in the deep-basin area of southeastern Illinois. Wells were drilled in 52 of the state's 102 counties and producing wells were drilled in 28 counties. More than half the total wells completed were located in 6 counties. The 8 counties which had more than 100 wells completed in 1951 are White, 320; Hamilton, 240; Wayne, 236; Richland, 162; Clay, 150; Wabash, 133; Clinton, 120; and Edwards, 103.

There were no major pools among the 41 discovered in Illinois in 1951. Those having the most producing wells at the end of the year are Frogtown North, Clinton County, with 22, and Blairsville West, Hamilton County, and Mason North, Effingham County, with 9 each.

Total oil production in Illinois in 1951 was 60,226,000 barrels as compared with 62,026,000 barrels in 1950, a decrease of 3 per cent. Average daily production in 1951 was 165,000 barrels as compared with 170,000 barrels in 1950.

EXPLORATORY DRILLING

There was exploratory drilling in 51 Illinois counties in 1951, and new pools were discovered in 19 counties. All but two of the 51 counties in which exploratory drilling was done are in the southern two-thirds of the State. Most of the new pools discovered in Illinois in 1951 are located within 2 or 3 miles of previous production, but there were three noteworthy exceptions, Beaucoup, Washington County (Table I, No. 2), 6 miles from previous production, Okawville, Washington County (Table I, No. 27), 6 miles from previous production, and Pana, Christian County (Table I, No. 31), 8 miles from previous production. Production in the Beaucoup and Okawville pools is from reefs in Silurian limestone and possibly in part from overlying Devonian limestone, as it is in the Marine pool, Madison County. Other pools discovered in 1951 in which the oil accumulation is probably associated with Silurian reefs include Beaucoup South (producing formation, Bethel) and Frogtown North (principal producing formations, Silurian and Devonian). The search for oil in or above Silurian reefs has been given considerable impetus by these discoveries.

A list of some of the most noteworthy dry holes completed in 1951 is given in Table IV. The deepest were two 5,000-foot tests in Effingham County, one of which reached the Silurian and the other the Maquoketa.

One deep test well, drilling at approximately 6,000 feet at the end of 1951, in the New Harmony Consolidated pool, White County, near the Wabash River, is of special interest because the drilling is planned to go below the St. Peter sandstone. It is located not far from the deepest part of the Illinois basin. During 1951 the St. Peter was tested in marginal areas of the basin in Adams, Monroe, Pulaski, and Schuyler counties.

METHODS OF EXPLORATION

The principal methods used in locating exploratory wells continued to be

TABLE IV. SELECTED LIST OF DRY TESTS

Pool	County	Company and Farm	Location	Total Depth (Feet)	Deepest Formation	Depth to Top (Feet)	Date of Completion
1.	Adams	W. L. King, King 1	6-2N-6W	1,030	St. Peter	1,026	6-10-51
2.	Bond	J. W. Everhart, Thomason 1	18-4N-2W	2,558	Silurian	2,509	9-18-51
3.	Bond	B. Kidd, Nash 1	15-6N-4W	2,768	Trenton	2,712	5-8-51
4.	Iola Consolidated	H. L. Cooper <i>et al.</i> , C. Pilcher 1	16-5N-5E	4,227	Devonian	3,972	4-24-51
5.	Carlyle North	H. L. Browning, P. P. Hughes "D" 1	23-3N-3W	2,558	Devonian	2,482	9-18-51
6.	Posey	J. W. Everhart & Ashland, Twenhoeft 1	17-1N-2W	2,729	Silurian	2,697	7-10-51
7.	Frogtown	D. Hopkins, Niemeyer 1	12-2N-4W	3,290	Trenton	3,205	11-13-51
8.	Clinton	Columbus Exploration, J. C. Twiss 1	23-2N-5W	3,029	Trenton	2,938	6-12-51
9.	Clinton	E. J. Goldschmidt, Rakers 1	18-2N-4W	3,120	Trenton	3,014	6-10-51
10.	Siggins	L. Fikes, Coconour 5	25-10N-10E	2,092	Devonian	2,044	10-23-51
11.	DeWitt	Watkins Drilling, H. E. Lippert 1	1-10N-1E	2,400	Trenton	2,292	6-12-51
12.	Effingham	P. N. Wiggins, R. Macklin 1	8-6N-6E	5,000	Silurian	4,533	6-5-51
13.	Effingham	P. N. Wiggins, H. Genaust 1	18-7N-6E	5,000	Maquoketa	4,668	4-3-51
14.	Fayette	C. J. Simpson & Pure, C. Wade 1	4-4N-1W	2,956	Devonian	2,769	8-28-51
15.	Fayette	F. Strickland, W. Hall 1	28-5N-1E	3,097	Devonian	3,020	7-24-51
16.	Greene	R. V. Henderson, M. C. Kirback 1	17-10N-10W	1,264	Trenton	1,173	10-30-51
17.	Logan	Rocky Ford Limestone Co., Fee 1	8-10N-3W	1,856	Trenton	1,746	4-3-51
18.	Logan	James McCue, R. A. Christion 1	1-18N-1W	2,334	Trenton	2,199	6-12-51
19.	Madison	H. F. Robison, W. Beste 1	11-3N-7W	2,297	Trenton	2,247	12-11-51
20.	Madison	G. L. Reasor, F. Hess 1	27-4N-6W	2,575	Trenton	2,481	2-27-51
21.	Madison	Dale Hopkins, R. M. Winet 1	29-4N-5W	2,704	Trenton	2,680	12-4-51
22.	Fairman	Natl. Assoc. Pet., F. Lutz "A" 1	18-3N-1E	2,947	Devonian	2,873	2-27-51
23.	Monroe	A. R. Venuto, T. Krestner 1	20-2S-9W	1,750	St. Peter	1,500	7-31-51
24.	Montgomery	Calvert Drlg., Hopkins 1	24-9N-5W	2,610	Trenton	2,501	4-10-51
25.	Montgomery	Phillips, Brohammer "A" 1	20-7N-2W	3,800	St. Peter	3,760	10-30-51
26.	Panama	Columbus Exploration, Hampton 1	19-7N-3W	2,184	Silurian	2,174	10-9-51
27.	Raymond	Calvert Drlg., C. Kurfiss 1	18-10N-4W	2,049	Devonian	1,891	5-22-51
28.	Montgomery	Cache Oil, G. Moses 1	17-16S-1W	2,956	Gunter	2,950	11-20-51
29.	Schuyler	John E. Carson, Hedgecock 1	5-3N-4W	975	St. Peter	958	2-27-51
30.	Mt. Carmel	Indiana Farm Bureau, Zimmerman 2-A	10-1S-12W	4,237	Devonian	3,907	11-6-51
31.	Beaucoup South	E. A. Obering, McWilliams 1	33-2S-2W	3,122	Devonian	2,995	12-31-51
32.	Dubois	T. S. Doran, F. Kasban 1	13-3S-2W	3,030	Devonian	2,955	5-8-51
33.	Washington	T. S. Doran, Schitker 1	15-2S-1W	3,336	Devonian	3,227	10-16-51
34.	Whiteside	E. L. Wirth, Guild 1	27-19N-4E	1,178	St. Peter	1,063	12-31-51

TABLE V. WILDCAT WELLS DRILLED IN ILLINOIS IN 1951

<i>Wildcat Near ^A</i>			<i>Wildcat Far ^B</i>			<i>Total Wildcats</i>	<i>Total Producers</i>	<i>Percentage Successful</i>
<i>Total</i>	<i>Producers</i>	<i>Percentage Successful</i>	<i>Total</i>	<i>Producers</i>	<i>Percentage Successful</i>			
509	78	15.3	330	16	4.8	839	94	11.2

^A From $\frac{1}{2}$ to 2 miles from production.

B More than 2 miles from production.

WILDCAT FAR WELLS CLASSIFIED BY METHOD OF LOCATION

<i>Method of Location</i>	<i>Total</i>	<i>Producers</i>	<i>Percentage Successful</i>
Geology	264	14	5.3
Geophysics	18	2	11.1
Geology and geophysics	13	0	0
Non-scientific	35	0	0
Total	330	16	4.8

TABLE VI. NUMBER OF GEOPHYSICAL CREWS ACTIVE IN ILLINOIS
DURING 1951 BY MONTHS

[illegible]

TABLE VII. DISCOVERY WELLS OF NEW FIELDS IN INDIANA IN 1951

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Initial Production (Barrels)	Date of Completion
42. Alfordville South	Daviess	Allmore Oil, Burris 1	11-1-N-5W	681	Salem	P. 25	7-25
43. Arney	Owen	W. G. Burrage, Stahl 1	22-9-N-5W	1,355	Devonian	F. 1,000,000 C.F.	3-7
44. Bartlesville	Monroe	J. L. Easter, Decker 1	33-7-N-2E	1,746	Trenton	P. 7	5-2
45. Bell-map East	Vanderburgh	Indiana Farm Bur., Phillips 1	16-6S-11W	1,420	Biehl	P. 01	10-31
46. Bicknell	Knox	W. G. R. Drig. Co., Wampler 2	MD 152-4-N-8W	1,384	Ste. Gen.	P. 40-100W	3-28
47. Boonville	Warrick	Sunlight Coal Co., M. Carter 61	22-5S-8W	1,763	Ste. Gen.	P. 210	5-1
48. Boon South	Posky	W. W. Dayton, Rueger 1	36-3S-13W	2,377	Cypress	P. 50	6-20
49. Elliott	Vanderburgh	Slater, Chandler 1	35-5S-10W	1,695	Ste. Gen.	P. 54-30W	8-1
50. Eureka	Spencer	H. W. Patterson, Richardson 1	33-7S-7W	1,639	Ste. Gen.	P. 28-6W	1-24
51. Fort Branch North	Gibson	Ryan & Sharp, Black 1	4-5S-10W	2,170	Aux Vases	P. 40	7-18
52. Hauptstadt	Gibson	Slagter, Pohl 1	31-3S-10W	2,377	Jackson	P. 9-20W	6-6
53. Iona	Knox	Slagter, Deems 1	Sur. 36-2-N-10W	1,861	Benoit	P. 85	11-26
54. Mackey West	Gibson	Cline & Lambert, Conrad 1	16-3S-6W	1,864	Cypress	P. 3-7W	10-24
55. Monroe City East	Knox	J. W. McClurg, Mize 1	MD 236-2-N-8W	1,512	Ste. Gen.	P. 39	8-22
56. Monroe City South	Knox	Jarvis, Helderman 1	21-2N-8W	1,329	Aux Vases	P. 00	9-3
57. Mt. Vernon South	Posky	Superior, Breiner 1	10-7S-13W	2,810	Wale & T. S.	P. 20-1W	9-26
58. Odon	Daviess	E. Michel, Ketchum 1	19-5N-5W	533	Aux Vases	P. 10-114W	6-27
59. Patoka North	Gibson	Calvert & Ashland, Sanders 1	MD 74-1S-10W	1,912	Hardinsburg	P. 15	3-28
60. Saline City	Clay	Clark Oil Research, Long 1	23-11N-7W	1,494	Jackson	F. 476,100 C.F.	2-28
61. St. Henry	Dubois	Nat'l. Assoc. Pet., Beagle 1	24-4S-5W	1,200	Ste. Gen.	P. 12	12-12
62. Santa Claus	Spencer	E. Groeninger, Wirthwein 1	39-4S-4W	935	Ste. Gen.	P. 8	7-18
63. Solitude South	Posky	Indiana Farm Bur., Reese 1	18-6S-13W	2,066	Penn.	P. 90-90W	7-25
64. Solitude West	Posky	Rush Creek Oil, Luke-Cox Comm. 1	35-5S-14W	1,440	Jackson	P. 38-125W	5-16
65. Stacer West	Vanderburgh	Slagter, Kissell 1	30-4S-10W	2,389	Aux Vases	P. 28-4W	8-8
66. Stewartsville	Posky	Calvert Drig. Co., Spencer 1	13-4S-13W	2,879	Devonian	P. 152-7W	5-9
67. Terre Haute East	Vigo	T. & H. Corp., Bettenbrock 1	36-12N-9W	1,653	Cypress	P. 8-35W	7-18
68. Winslow	Pike	Cline & Lambert, Charity Farm 1	31-4S-7W	1,388	Penn.	P. 20	4-4
69. Zipp	Vanderburgh	Calvert Drig. Co., Murphy-Colbert 1	30-5S-10W	1,010			

subsurface geology and the reflection seismograph (Table V). The amount of seismograph work during 1951 was 44 crew months, the same as in 1950. Gravity-meter work decreased from 28 crew months in 1950 to 13 crew months in 1951.

INDIANA

By R. C. COOPER

Indiana oil production during 1951 totaled 10,597,000 barrels. This is comparable with a total of 10,699,000 barrels produced during 1950 and represents a decrease of 1 per cent. The total of all oil and gas tests drilled during 1951, excluding water- and gas-input wells, was 1,319, of which 877 were dry holes and 442 were producers. This compared with a total of 1,530 tests drilled in 1950 and represents a decrease of 14 per cent. Tests were drilled in 48 counties, 7 less than in 1950. This retreat of the frontiers of exploration was due in part to a decline of interest in reef exploration, a factor which had been responsible for a wider distribution of tests during the two previous years. The center of attention is shifting back to southwestern Indiana where the Pennsylvanian and Chester sandstones, together with McClosky limestone, offer a greater number of pay possibilities at greater depth. This change is reflected in the fact that while the number of tests declined 14 per cent, the total footage drilled declined only 6½ per cent. Total footage drilled during 1951 was 2,466,089 feet which compared with 2,637,597 feet drilled in 1950. The average depth of all tests drilled in 1951 was 1,869 feet. This compares to an average depth of 1,724 feet for all tests drilled during 1950.

The total initial production of all oil wells completed in 1951 was 30,273 barrels, compared with 41,236 barrels for 1950, a decline of 27 per cent. The total initial production of all gas well completions was 18,470 MCF as against 70,219 MCF for 1950 completions. This represents a decrease of 74 per cent.

Discoveries include 28 new fields, 23 extensions, and 28 discoveries of new pay zones in producing areas. The Pocket area of southwestern Indiana, which includes Posey, Gibson, and Vanderburgh counties, had 13 new-field discoveries, 14 extensions, and 19 new pay discoveries. Ranking the counties by total discoveries of all types, Posey County is first with 27; Knox second with 15; Gibson third with 11; Daviess fourth with 8; Vanderburgh fifth with 6; Dubois sixth with 3; and Pike and Spencer counties tied for seventh with 2 each. Warrick, Clay, Monroe, Owen, and Vigo counties had one discovery each.

Most of the discoveries resulted in fewer than 5 development wells and many appear to be one- and two-well pools. One optimistic note is the fact that the average initial potential of all oil wells completed during 1951 was 68 barrels as compared with the 1950 average of 67 barrels per well.

One of the most important of the 1951 discoveries was the Terre Haute East pool of Vigo County which produced from the Devonian limestone. This pool was discovered on May 9. At the end of 1951 it had 7 producing wells with a daily average production of 535 barrels, and development was not complete. Estimated

TABLE VIII. DISCOVERY WELLS OF ADDITIONAL PRODUCING ZONES IN POOLS
IN INDIANA IN 1951

Pool	County	Company and Farm	Location	Producing Formation	Initial Production (Barrels)	Date of Completion
1. Birdseye	Dubois	Kingwood, Boeckman 1	15-3S-3W	Warsaw	P. 27-21W	11-8
2. Bufkin West	Posey	Ryan Oil Co., Wallace 1	21-6S-13W	Ste. Genevieve	P. 50 (A. V. & Ste. Gen.)	12-20
3. Caborn	Posey	Noah Drlg. Co., Droege 1	5-6S-12W	Clare	P. 1100	8-15
4. Caborn South	Posey	Slagter, Lurker 1	30-6S-13W	Degonia	P. 22-22W	9-13
5. Claypole Hills	Knox	Carter Oil, Steckler 4	30-1N-12W	Benoist	P. 76-13W	8-30
6. Cumback West	Daviess	Eidson & Gwaltney, Allison Hrs. 1	20-2N-7W	Aux Vases	P. 28-3W	11-15
7. Elnora	Daviess	E. Michel, Woodruff 2	34-5N-6W	Ste. Genevieve	P. 100-4W	1-11
8. Elnora	Daviess	Colby, Audis 2	4-4N-6W	Aux Vases	P. 5-14W	11-14
9. Farmersville	Posey	Schuller, Mattingly 1	31-6S-13W	Aux Vases	P. 120	2-8
10. Ford	Posey	Cherry & Kidd, Fischer 3	15-6S-12W	Biehl	P. 50 (Cyp. & Biehl)	2-22
11. Ford South	Posey	Ashland—D. Miller, Dirschauer 1	27-6S-12W	Aux Vases	P. 168- trace water	8-30
12. Ford South	Posey	Dee Miller, Appel 12	27-6S-12W	Ste. Genevieve	P. 225	11-1
13. Ft. Branch North	Gibson	Ryan & Sharp, Stevens 1	5-3S-10W	Ste. Genevieve	P. 7-15W	12-13
14. Huntingburg	Dubois	Dale, Mehne 2	8-3S-5W	Cypress	P. 25-25W	9-13
15. Iona	Knox	Cline & Lambert, Rea 1	Sur. 41-2N-10W	Aux Vases	P. 6-12W	12-10
16. Lamott	Posey	Heppard, Thomas Est. 6	24-7S-13W	Hardinsburg	P. 67-20W (T. S. & Hard.)	7-26
17. Lamott	Posey	Calvert Drlg. Co., Keck 1	18-7S-12W	Ste. Genevieve	P. 41	4-4
18. Mackey West	Gibson	Cline & Lambert, Zint 1	8-3S-9W	Aux Vases	P. 17-30W	10-18
19. Monroe City South	Knox	Jarvis, Helderman 2	21-2N-8W	Ste. Genevieve	P. 85	8-30
20. Monroe City West	Knox	Clark & Clark, O'Meyers 1	MD 179-2N-9W	Aux Vases ls.	P. 73-3W	11-7
21. Monroe City West	Knox	Morton, Carter 1	MD 11-2N-9W	Ste. Genevieve	P. 5-25W	3-28
22. Owensville	Gibson	Tuley & Carter, Wither- spoon 2	20-3S-11W	Waltersburg	P. 18-40W	7-11
23. Plainville	Daviess	B. L. & S. Drlg. Co., Unit 14-3	2-4N-7W	Devonian	P. 14-16W	2-8
24. St. James	Gibson	A. Cherry, Lutz 1	13-4S-11W	Aux Vases	P. 187	8-8
25. St. Phillips	Posey	Skiles Oil Co., Seiler 1	24-6S-12W	Biehl	P. 500	6-6
26. Vienna North	Vanderburgh	B. Kidd, Harris 1	18-5S-11W	Ste. Genevieve	P. 70	2-8
27. Welborn	Posey	H. Atha, Hoehn 1	20-6S-14W	Degonia	P. 25	6-6
28. Welborn	Posey	Sturbois, Bundy 1	17-6S-14W	Palestine	P. 100-3W	6-14

TABLE IX. DISCOVERY WELLS OF EXTENSIONS TO FIELDS IN INDIANA IN 1951

Pool	County	Company and Farm	Location	Total Depth (Feet)	Producing Formation	Initial Production (Barrels)	Date of Completion
1. Caborn	Posey	Noah Drlg. Co., Droege 1	5-6S-12W	1,725	Clare	F. 1100	8-15
2. Elnora	Daviess	Morgan Coal Co., Simms 1	35-5N-6W	1,096	Salem	P. 30-25W	3-14
3. Elnora	Daviess	Colby, Audis 2	4-4N-6W	812	Aux Vases	P. 5-14W	11-14
4. Iona	Knox	Cline & Lambert, Rea 1	Sur. 41-2N-10W	1,827	Aux Vases	P. 6-12W	12-10
5. Lamott	Posey	Calvert Drlg. Co., Keck 1	18-7S-12W	2,696	Ste. Genevieve	P. 41	4-4
6. Lamott	Posey	Stanford Oil, Oeth 1	25-7S-13W	2,771	Ste. Genevieve	P. 30	11-14
7. Martin	Vanderburgh	B. Kidd, Martin 1	5-5S-11W	2,552	Cypress	P. 20-125W	1-4
8. Union-Bowman	Pike	Juan Drlg. Co., Wilkerson 1	7-1N-8W	1,220	Jackson	P. 20	12-12
9. Monroe City	Knox	Cline & Lambert, Stewart 1	MD 105-2N-8W	1,327	Cypress	P. 8	11-21
10. Monroe City North	Knox	Morgan Coal Co., Powell 1	MD 81-3N-8W	1,454	Ste. Genevieve	P. 5-72W	10-24
11. Monroe City West	Knox	Morton, Carter 1	MD 11-2N-9W	1,542	Ste. Genevieve	P. 5-25W	3-28
12. Monroe City West	Knox	Cline & Lambert, Drieman 1	MD 178-2N-9W	1,667	Ste. Genevieve	P. 15	9-12
13. Monroe City West	Knox	Hugh & Murphy, Arterburn 1	MD 15-2N-9W	1,504	Aux Vases	P. 4	12-5
14. Mumford	Posey	Schoonmaker, Mumford 2	7-4S-13W	2,563	Cypress	P. 60-4W	7-5
15. New Haven Cons.	Posey	Ryan Oil Co., Fleisher 1	20-6S-14W	3,001	Aux Vases	P. 5-6W	11-8
16. New Haven Cons.	Posey	C. E. Brehm, Sipp 1	32-6S-14W	2,992	Ste. Genevieve	P. 48	7-18
17. Owensville North	Gibson	Loveless, Blair 1	14-2S-12W	2,381	Ste. Genevieve	P. 15	1-31
18. Parker	Posey	Reznick, Felthaus 1	2-6S-12W	2,662	Ste. Genevieve	P. 165-30W	11-14
19. Princeton	Gibson	Ashland, Woods Comm. 1	13-2S-11W	2,193	Ste. Genevieve	P. 62	1-4
20. St. James	Gibson	A. Cherry, Lutz 1	13-4S-11W	2,297	Aux Vases	P. 187	8-8
21. St. Phillips	Posey	Skiles Oil Co., Seiler 1	24-6S-12W	2,305	Biehl	P. 500	6-6
22. Welborn	Posey	H. Atha, Hoehn 1	20-6S-14W	2,963	Degonia	P. 25	6-6
23. Welborn	Posey	Tuley & Carter, Wilson 1	17-6S-14W	2,993	Tar Springs	P. 18	9-3

reserves as of that date were 316,000 barrels (A.P.I. Reserves Committee). This discovery has been attributed to subsurface studies and is probably related to an underlying reef.

In the Monroe City producing area of Knox County 2 new fields and 5 new extensions of fields were discovered. This broadens the producing area to include parts of three different townships in five separate producing fields with a total of 69 wells completed as of December 31, 1951. Production is established in the Cypress sandstone, the Aux Vases sandstone and limestone, and the Ste. Genevieve limestone. The most significant addition to the area during 1951 was the

TABLE X. SELECTED LIST OF DRY TESTS IN INDIANA IN 1951

County	Company and Farm	Location	Total Depth (Feet)	Deepest Formation Tested
1. Boone	W. R. Moss, Little 1	15-19N-2E	1,052	Trenton
2. Carroll	D. P. Calvert, G. Calvert 1	17-24N-2W	1,016	Trenton
3. Cass	Fredenhagan, Casepeer 1	28-27N-3E	1,010	Trenton
4. Clark	Stoll, Walters 1	7-1N-9E	1,400	Trenton
5. Dearborn	Regional Dev., Fox 1	28-6N-1W	2,415	Eau Claire
6. Floyd	Stoll, Scherziner 1	16-3S-6E	1,730	St. Peter
7. Harrison	Stoll, Hess 1	6-4S-5E	2,290	Trenton
8. Jennings	Stud, Maschino 1	29-6N-7E	1,480	Trenton
9. LaGrange	Sigrist, Hunt 1	19-37N-11E	2,357	Trenton
10. Lawrence	Regional Dev., Lewis 1	34-4N-2W	2,555	Trenton
11. Montgomery	VanHorn, Foster <i>et al.</i> 1	19-17N-5W	2,315	St. Peter
12. Owen	Michel, Ritter 1	35-11N-3W	1,920	Trenton
13. Putnam	Hays Drilg. Co., Nichols 1	17-14N-3W	2,376	Trenton

TABLE XI. NUMBER OF GEOPHYSICAL CREWS ACTIVE IN INDIANA DURING 1951 BY MONTHS

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Seismograph	3	2	2	1	1	1	1	0	0	0	0	0
Gravity meter	0	0	0	0	0	0	0	0	0	0	0	0

Monroe City South field which produces from Aux Vases sandstone and the Ste. Genevieve limestone. Estimated reserves (A.P.I. Reserves Committee) for the Monroe City area are 1,420,000 barrels as of December 31, 1951. These fields were discovered by subsurface structural and stratigraphic studies.

Geophysical exploration declined sharply in 1951 beginning in February and by August all activity was at a standstill. There were no known gravity-meter parties active in Indiana in 1951. Although some increased activity can be expected in 1952, it is unlikely that it will reach the peak attained during the years of 1949 and 1950. Subsurface information is expected to be the principal tool of exploration in 1952.

Leasing continued through 1951 although it was on a more selective basis and did not involve as many broad lease plays in the more remote parts of the state as in the two previous years. A continuation of this selective leasing is to be expected in 1952 but will probably be more active in the southwestern counties. There are several strong limiting factors which will affect this program. Few desirable lands remain unleased. Bonuses are high and restrictive clauses

commonly render other leases impractical. Titles are a problem although many adventurous operators are inclined to disregard this factor.

There are parts of Warrick, Pike, Vigo, and Gibson counties which offer promise of further development in the Pennsylvanian and Chester sands and the oölitic porosity zones of the Ste. Genevieve formation. Subsurface studies of structural trends and porosity trap possibilities seem to be the most effective and certainly the most economical mode of exploration in this area. A further decline of reef exploration is anticipated in 1952. There is a deep test now drilling along the Wabash River in White County, Illinois, a short distance from Posey County, which could change the outlook in Indiana very suddenly if important Devonian or Ordovician production should be encountered. This test is projected to the St. Peter sandstone and possibly deeper.

Although exploration for and primary exploitation of oil fields in Indiana are definitely on the downgrade, there is one source of optimism for Indiana as an oil-producing state. Secondary recovery from reservoirs depleted by gas expansion methods is increasing rapidly in importance. Several water-flood projects are under way and more can be expected in the near future. It does not seem too optimistic to expect these projects to compensate for much of the expected decline in primary production.